

WHAT IS CLAIMED IS:

1. A footwear lacing system, comprising:
a footwear member including first and second opposing sides configured to fit around a foot;
5 a plurality of opposing cable guide members positioned on the opposing sides;
a single strand nickel-titanium alloy cable guided by the guide members, the cable having a first end and a second end, the cable rotationally linked to a spool; and
10 a tightening mechanism attached to the footwear member and coupled to the spool, the tightening mechanism including a control for winding the cable around the spool to place tension on the cable thereby pulling the opposing sides towards each other.
2. A footwear lacing system as in Claim 1, wherein the first and second
15 ends are removably connected to the spool.
3. A footwear lacing system as in Claim 1, wherein the first and second ends are fixed to the spool.
4. A footwear lacing system as in Claim 1, wherein the cable is connected to the spool at a point spaced apart from the ends of the cable.
- 20 5. A footwear lacing system as in Claim 1, wherein the cable extends through a bore through the spool.
6. A footwear lacing system as in Claim 1, wherein the cable is removably connected to the spool such that the cable may be removed from the footwear lacing system without removing the spool.
- 25 7. A footwear lacing system as in Claim 1, wherein the cable has a diameter within the range of from about 0.020" to about 0.040".
8. A footwear lacing system as in Claim 7, wherein the cable has a diameter within the range of from about 0.025" to about 0.035".
9. A footwear lacing system as in Claim 8, wherein the cable comprises
30 rounded ends.

10. A footwear lacing system as in Claim 1, wherein the cable is slideably positioned around the guide members to provide a dynamic fit in response to movement of the foot within the footwear.

11. A footwear lacing system as in Claim 10, further comprising at least one expansion limiting band thereon, which resides in an expansion limiting plane.

12. A footwear lacing system as in Claim 11, wherein the expansion limiting band is positioned on the footwear such that it surrounds the wearer's ankle.

13. A footwear lacing system as in Claim 12, wherein the expansion limiting plane extends substantially horizontally through the footwear.

14. A footwear lacing system as in Claim 1, wherein the tightening mechanism comprises a rotatable reel for receiving the lace.

15. A footwear lacing system as in Claim 14, further comprising a rotatable knob, selectively engageable with the reel.

16. A footwear lacing system as in Claim 15, wherein the knob is rotatable only in a first, lace tightening direction.

17. A footwear lacing system as in Claim 15, wherein the knob is moveable between an engaged position and a disengaged position, and the reel is rotationally locked to the knob when the knob is in the engaged position.

18. A footwear lacing system as in Claim 17, wherein the knob has an axis of rotation and the knob is moveable between the engaged position and the disengaged position by moving the knob along the axis of rotation.

19. A method of balancing tension along the length of a lacing zone in a boot, comprising the steps of:

providing a boot having first and second opposed sets of guide members, and a lace extending back and forth between the first and second opposed guide members, the guide members each defining a pathway through which the lace slides, and a rotatable tightening mechanism on the boot for retracting lace thereby advancing the first and second set of opposed guide members towards each other to tighten the boot;

rotating the tightening mechanism to retract lace thereby advancing the first and second opposing sets of guide members towards each other to tighten the boot;

permitting the lace to slide through the guide members, to distribute the tightening force along the length of the guide members and to equilibrate tightening force along the length of the lacing zone on the boot; and

5 limiting expansion in at least one plane through the lacing zone by fastening an expansion limiting strap in the plane.

20. A closure system for footwear having an upper, with a lateral side and a medial side, the closure system comprising:

at least a first lace guide attached to the lateral side of the upper;
at a least a second lace guide attached to the medial side of the upper;
10 each of the first and second lace guides comprising a lace pathway;
a lace slideably extending along the lace pathway of each of the first and second lace guides;

a tightening reel on the footwear, for retracting the lace, thereby advancing the first lace guide towards the second lace guide to tighten the footwear; and
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a knob moveable between a coupled position and an uncoupled position;
wherein the knob is rotatable in a forward direction and the reel is rotationally coupled to the knob when the knob is in the coupled position, and the reel is rotatable in a reverse direction when the knob is in the uncoupled position.
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21. A closure system for footwear as in Claim 20, wherein each of the first and second lace guides comprises a tube.